

Application No.: 09/990604

Case No.: 57029US002

Remarks

Claims 1-3, 8-15, and 17-24 are pending. Claims 4-7, 16, and 25-69 have been canceled. Claims 1, 15, 17 and 18 are currently amended.

Claims 25-69, which are drawn to non-elected inventions, have been canceled to place the application in condition for allowance.

Claim 1 is amended to include the limitation of claim 7.

Claim 15 is amended to include the limitations of claim 16.

Claim 17 is amended to correct the dependency necessitated by the amendment to claim 15.

Claim 18 is amended to correct an obvious grammatical error.

§ 103 Rejections

Claims 1-3, 7-15 and 20-24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nikon Corp, JP 06-329988, as evidenced by Patent abstracts of Japan, JP406329988A, and the corresponding machine translation, Japan Patent Office, in view of Bruno, US 5,776,239.

The Patent Office asserts that Nikon Corp discloses composite sols of titanium oxide and antimony pentoxide, wherein the sol may be an aqueous or aqueous/organic solvent sol. The Patent Office admits that Nikon Corp lacks a disclosure of the crystalline form of the commercial sols. The Patent Office further asserts that The particles sizes are disclosed as 1-200 nm, preferably 5-100 nm. The Patent Office still further asserts that Nikon Corp teaches the incorporation of an organic silicon compound or hydrolyzate as a sol constituent and teaches the addition of an organic amine for stabilization, and that Nikon Corp teaches and discloses ratios reading on applicants' claimed range. The Patent Office further asserts that Nikon Corp teaches the sols compositions have a high refractive index. The Patent Office admits that Nikon Corp differs in the explicit disclosure of the crystalline structure claimed as rutile-like.

The Patent Office further asserts that Bruno discloses ultrafine hydrothermally treated powders having an average crystallite size of about 1-100 nm, preferably about 4-60 nm, with

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agglomerates from their primary crystalline size up to about 300 nm and having 95 to 100% rutile crystals.

The Patent Office argues that the references are combinable because they teach titanium oxide pigments for addition to plastics, and therefore that it would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ the hydrothermally treated colloidal particles having rutile structure for the known rutile structure property of high refractive index as desired in the Nikon Corp reference, since it is well known in the pigment art that the rutile phase of titanium dioxide has a higher refractive index than the anatase crystalline phase.

Without agreeing to the characterization of Nikon Corp or Bruno, or admitting that the rejection is even proper, Applicants note that the composite particles of Nikon Corp have a core-shell structure in which antimony oxide particles are coated around a titanium oxide core of unspecified crystal structure (e.g., see Nikon Corp previously submitted human translation at paragraphs [0014] through [0032], more particularly at paragraph [0026]). It is submitted that such core-shell composite particles are not "mixed oxides" as defined in the specification on page 3, line 19 as an "intimate mixture of titanium and antimony oxides". It is further submitted that the Patent Office has not provided evidence that hydrothermal treatment of such composite particles would cause the titanium oxide and antimony oxide particles to form a **mixed oxide**, much less to form a mixed oxide having an **ensemble average rutile-like crystalline phase content of the Ti/Sb mixed oxide nanoparticles of at least 20 weight percent**, as in currently amended claim 1.

It is submitted that Bruno fails to supply the deficiencies in Nikon Corp for at least the reasons set forth in the previous Amendment filed December 3, 2003, and therefore the combination also fails to achieve the invention of currently amended claim 1.

Claim 7 has been canceled. Claim 15 has been currently amended to incorporate the limitation of canceled (allowable) claim 16 and is therefore allowable. The remaining claims 2, 3, 8-15, and 20-24 depend from claims that are allowable for at least the reasons set forth above.

In summary, the rejection of claims 1-3, 7-15 and 20-24 under 35 U.S.C. 103(a) as being

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unpatentable over Nikon Corp, JP 06-329988 in view of Bruno, US 5,776,239 has been overcome and should be withdrawn.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested.

Respectfully submitted,

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Date

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